

home orders provided exemptions for medical care. There could be some supply response if providers limited the types of visits or reduced hours. Within nursing homes, staff or residents themselves may have been less likely to travel off-site to visit a medical care provider.

Given the potential downsides of efforts to control the spread of the virus, we next examine whether high-quality nursing homes also managed the non-COVID risks created by isolation. In particular, we estimate [Eq. \(1\)](#) above, but with non-COVID deaths as our dependent variable. Like our analysis of COVID-19 deaths, we estimate effects across seven different time periods. The second panel of [Table 3](#) (rows 8 through 14) contains parameter estimates. As of May 24th, 2020 (row 8), nursing home quality had no statistical effect on non-COVID deaths in nursing homes; however, by September 13th, 2020 (row 9), we document a large, positive, statistically significant impact of nursing home quality on non-COVID deaths. Five-star homes have about 11 percent more non-COVID deaths than one-star homes and deaths are increasing monotonically with quality. Rows 10 and 11 shows that the relationship between quality and cumulative non-COVID deaths has strengthened with time, as do rows 12 through 14, which look at non-COVID deaths occurring in early, middle, and more recent time intervals. That the relationship has strengthened with time is consistent with the narrative above. The longer patients are exposed to isolation from others and/or regular medical care is not received, the greater risk they face. Moreover, the patterns in [Fig. 2](#) show that despite growing vaccination rates through early 2021, traffic in and out of nursing homes remained well below pre-pandemic levels. We repeat all robustness tests performed for COVID-19 deaths (reported in [Table 4](#)) for non-COVID deaths in Appendix [Table A6](#), where non-COVID deaths are measured on September 13th, 2020. Results are robust to all tested specifications.

There is some concern that our findings can be explained by higher-quality nursing homes intentionally misreporting COVID-19 deaths as non-COVID deaths, potentially in an effort to protect their reputation. This concern is somewhat mitigated by [Fig. 1](#). Were COVID-19 deaths consistently reported as non-COVID, we would expect stark rises in non-COVID deaths during the summer and winter waves of 2020; we see neither. Moreover, misreporting is most likely early in the pandemic and results using cumulative deaths as of September are nearly identical to those using deaths between May and September. Finally, the result is present in nursing homes even after COVID-19 vaccines were introduced and disease mortality fell to the lowest level in months.

Yet another alternative explanation of our findings is that COVID-19 “harvests” the most fragile residents from low-quality homes, meaning they are not around to die of non-COVID causes.<sup>27</sup> We address this concern, and further address the misreporting concern, by re-estimating [Eq. \(1\)](#) with *total* nursing home deaths as our dependent variable. We report parameter estimates in the third panel of [Table 3](#) (rows 15 through 21). Our results show that there is not any period of time over which high-quality homes experienced fewer total deaths than low-quality ones, even very early in the pandemic (row 15) when statistically, high-quality homes were experiencing far fewer COVID-19 deaths (row 1).<sup>28</sup> By December 6th, 2020, high-quality homes had experienced statistically more total deaths than low-quality homes (row 17) and the gap between the two has grown over time (row 18). The last three rows of [Table 3](#) show the urgency of the problem. From summer 2020 (row 19), to fall 2020 (row 20), and finally winter/spring 2021 (row 21), the positive relationship between nursing home quality and total deaths has increased in magnitude. In the latter

of these three periods (row 21), five-star homes experienced 17.5 percent more total deaths than one-star homes. On a base of 11 deaths per home, this amounts to roughly two additional deaths in five-star homes over just a four-and-a-half-month period. By our estimates, all of these excess deaths are due to non-COVID causes.

A related concern to the one above is that due to patient churn in and out of nursing homes over time, the composition, and therefore underlying health, of residents may change. For example, it is plausible that fear of COVID-19 led the wealthiest, healthiest potential residents to avoid nursing homes. For this behavior to drive our findings – specifically, our finding that the relationship between quality and total deaths increases over time – it would need to be the case that the average resident at higher-quality homes became sicker, without a similar change occurring at lower-quality homes. Unfortunately, as we do not observe changes in average patient acuity within the home over time, we cannot test this theory. Alternatively, selection could lead higher-quality homes to have higher occupancy rates than lower-quality homes over time. Indeed, over the life of the surveillance data, occupancy rates at high 5-star homes go from three percentage points higher than 1-star homes to just under five percentage points higher. That said, when we control for the home's occupancy rate in our total death models, our results are very similar.<sup>29</sup>

In a final attempt to validate the important role that visitation restrictions play in our findings, we look for empirical evidence that high-quality nursing homes allowed fewer visitors during the COVID-19 pandemic. To this end, we matched the individual nursing homes in our main data file to the foot traffic data in the SafeGraph point of interest series. Using zip-code and longitude/latitude coordinates in both data files, we were able to identify 12,300 homes with both foot traffic and nursing home quality data. Among these homes, we calculated average daily foot traffic (i) in January 2020 (i.e., pre-pandemic) and (ii) between January 1st, 2021 and April 25th, 2021. We then calculated the percent change from (i) to (ii). On average, foot traffic in nursing homes declined by 34 percent (s.d. 18). We then regress the percent decline in foot traffic on home quality, using a variety of specifications (e.g., including additional controls, state fixed effects, and county fixed effects, and with sample limitations for nursing home size and measurement error).<sup>30</sup>

We find that while quality is typically negatively associated with the change in foot traffic, the effects are never statistically different from zero; thus, we do not report results here, but they are available upon request. In addition to measurement error, the fact that SafeGraph does not distinguish between the cell phones of visitors, staff, and residents makes the foot traffic data an imperfect proxy for “number of visitors.” This feature of the data poses a challenge to our validation exercise if, for example, high-quality homes experience a decline in visitors, while low-quality homes experience staff shortages (a reality that we document above.) Another concern is that the residents of high-quality homes are both younger and wealthier, meaning they and their visitors are more likely to possess cell phones. As SafeGraph expanded their network over the course of the pandemic, higher cell phone densities in higher-quality nursing homes could boost foot traffic counts, even as the number of visitors declined.

#### IV. Conclusion



The COVID-19 pandemic has ravaged residents of nursing homes with roughly one fifth of COVID-19 deaths coming from this group. Not surprisingly, the impact of the pandemic varied in some systematic ways across homes. Initially, higher-quality homes were much more successful at limiting the impact of the pandemic, primarily by preventing the spread of the disease once it entered the nursing home, but these differences declined over time. Between January of 2020 and April of 2021, cumulative COVID-19 mortality was lower in higher-quality nursing homes, all else equal; however, starting sometime in the Fall of 2020, the marginal death counts from COVID-19 were no different across nursing home of different quality levels. This finding suggests that higher-quality homes adapted quickly at the start of the pandemic, while lower-quality homes took more time to understand how to effectively contain the virus among residents.

Our results raise a new concern about higher-quality facilities, in that they have higher non-COVID mortality than lower-quality places. This finding is not due to a misclassification of deaths, as the relationship persists even after COVID-19 vaccines were introduced and COVID-19 mortality fell to a fraction of the levels seen at the height of the pandemic. It is also not due to harvesting – the notion that lower COVID-19 deaths in higher-quality homes might mean more residents are available to die from other causes – as higher-quality homes have higher aggregate mortality. A more troubling aspect of our findings is that as the home quality/COVID-19 mortality gradient was eliminated over time, the quality/non-COVID-19 mortality gradient has steadily increased as the pandemic has aged.

Our paper is less successful at identifying the reason for the quality/non-COVID mortality gradient. Our results indicate that higher-quality homes were better at following CMS guidelines designed to control the spread of the virus, such as having PPE equipment on hand, not having staff shortages, more frequent testing of both residents and staff, and having higher staff and resident vaccination rates. It is logical to assume then that higher-quality homes were also better at generating more distance between residents and the outside world by preventing building entry and isolating residents from one another. Anecdotal reports from doctors, nurses, and resident family members ([Aronson, 2020](#); [Paulin, 2020](#); [Graham, 2020](#)), as well survey data from residents themselves ([Montgomery et al., 2020](#)), document frightening levels of depression, loneliness, and hopelessness. Consistent with these reports, CMS updated their visitation guidelines in mid-September of 2020 to combat the mental and physical distress of isolation.<sup>31</sup> Analysis of the Minimum Data Set by [Levere et al. \(2021\)](#) during the early stages of the pandemic suggests that nursing home residents declined in health along dimensions consistent with increased isolation, such as unexplained weight loss, declines in cognitive function, and increases in depressive symptoms. This is, however, not the only pathway by which the pandemic could have altered non-COVID mortality. Isolation policies may coincide with, or even cause, reductions in routine medical care, residents' physical activity, or food consumption. The rise in bed sores and drop in weight found in [Levere et al. \(2021\)](#) suggest these other mechanisms may play a role.

The good news from [Fig. 1](#) is that once vaccines became available, mortality declined considerably. Weekly deaths of nursing home residents with COVID-19 peak at 6082 the week ending December 20th, 2020. By the week ending May 21st, 2021, this number was 179, a 97 percent drop. [Fig. 1](#) provides some hope that things might be returning to normal within these group quarters.

Despite this positive trend, not all has returned to normal. The decline in visits to nursing homes in the early stages of the pandemic as measured by cell phone movements was dramatic. By April 1st of 2020, visits to nursing homes were down 51 percent compared to January of 2020. As vaccines became available and COVID-19 deaths in nursing homes fell considerably in early 2021, visits to nursing homes increased but never returned to anywhere near pre-pandemic levels. By the end of June 2021, visits were still down by 35 percent compared to the January 2020 levels. These numbers are imperfect measures of visits because they include counts of family and friends visiting residents plus, entrances by workers, traveling nurses and aids such as physical therapists, etc. It is also not clear whether the persistent decline in visits to nursing homes is supply driven (continue restrictions on the part of nursing homes) or demand driven (friends and family do not want to visit the nursing homes). Despite these caveats, the fact that foot traffic in nursing homes never returns to anywhere near normal levels could explain another feature of our findings – that the impact of higher-quality homes on non-COVID mortality continues to grow with time.

The COVID-19 pandemic presented a unique challenge for nursing homes. Early CMS directives and various state regulations for nursing homes prioritized reducing resident and staff exposure to COVID-19. There was little discussion about the downside risks associated with reducing visitors, communal activities, and resident travel out of the home. Our results suggest that more balanced policies and guidelines that emphasize maximizing the health of residents, rather than just minimizing risk to one disease, may have improved outcomes. For a period of time, CMS and the news media at large measured nursing home COVID-19 performance using cases and deaths only, meaning the logical response on the part of the nursing home was to minimize these counts regardless of the cost. In retrospect, the tone of the discussion and the measurement of outcomes may have led to some deadly consequences. As economists continually stresses, there are benefits and costs to all regulations.

## Author statement

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This is the author statement for the paper referenced above. The two authors of this paper were engaged in all aspects of the production of this manuscript including: Conceptualization; methodology; software; validation; formal analysis; investigation; resources; data curation; writing; visualization; supervision; project administration; and funding acquisition.

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## Footnotes

<sup>1</sup><https://coronavirus.1point3acres.com/>.

<sup>2</sup>We outline the data used in these calculations in the next section.

<sup>3</sup>The Kaiser Family Foundation notes that early in the pandemic, 27 states banned visitors and 22 states recommended that nursing homes ban visitors ([Tolbert et al., 2020](#)). Two states provided no guidance.

<sup>4</sup>[https://www.cdc.gov/nchs/nvss/vsrr/covid19/excess\\_deaths.htm#data-tables](https://www.cdc.gov/nchs/nvss/vsrr/covid19/excess_deaths.htm#data-tables)

<sup>5</sup><https://data.cdc.gov/NCHS/Conditions-Contributing-to-COVID-19-Deaths-by-Stat/hk9y-quqm>.

<sup>6</sup>While only 12.5 percent of Alzheimer patients live in nursing homes ([Lepore et al., 2017](#)), just under half of nursing home residents have Alzheimer's ([CDC, 2020a](#)). In 2018, 50.6 percent of all deaths listing Alzheimer's as an underlying cause occurred in nursing homes. (Authors' calculations from CDC Wonder Multiple Cause of Death data.)

<sup>7</sup>There is a public health literature that evaluates the extent to which CMS star ratings measure true quality. [Konetzka et al. \(2021\)](#) review this literature and point to two types of evidence that the overall star rating captures relevant information on quality. The first type of evidence is that the overall star rating is highly predictive of characteristics typically associated with quality, such as the share of Medicaid pay residents and resident education ([Konetzka & Gray, 2017](#); [Perrailon et al., 2019](#)), something we document in this paper as well. The second type of evidence shows that homes with higher overall star ratings have fewer hospital admissions and readmissions and lower mortality ([Cornell et al., 2019](#); [Unroe et al., 2012](#)). There is a more nuanced debate regarding the reliability of the component (i.e., inspection, quality metrics, and staff) star ratings. We review this literature in Appendix Section C.

<sup>8</sup>We calculate these numbers through then end of 2020 as it is easiest to obtain a denominator for January of 2020.

<sup>9</sup>The CMS data indicates there are 1.1 million nursing home residents as of the first CMS weekly report and there were about 72,000 deaths from all causes in nursing homes up to that point. Adding these two numbers together gives us roughly 1.2 million nursing home residents at the beginning of the year. This number is an approximation as residents could have moved into a nursing home and died. The CMS data report 107,342 deaths through the week ending January 3<sup>rd</sup>, 2021. Applying the correction factor from the appendix to take into consideration the underreporting of deaths in the first week, this generates roughly 111,000 COVID-19 deaths in nursing homes in 2020, for a death rate of 9,252.

<sup>10</sup>Census estimates a US population of 329 million in January of 2020, including 54 million people 65 and older ([US Census Bureau, 2020](#)). There were 392,356 COVID-19 deaths by the week ending January 2<sup>nd</sup>, 2021, meaning 281,338 were outside of nursing homes. One estimate suggests 15.5 percent of the nursing home population is under 65 ([Howley, 2019](#)), leaving 1 million people aged 65 and over living in nursing homes and 55 million people aged 65 or over living outside of nursing homes. The CDC reports that 96 percent of deaths in nursing homes were to people 65 and older. Applying this ratio to the CMS numbers suggests that roughly 106,577 COVID-19 deaths in nursing homes were to people aged 65 and over. Subtracting this from the 317,020 COVID-19 deaths to people aged 65 and over in the US, there were 210,443 COVID-19 deaths for people aged 65 and over outside of nursing homes, for a death rate

of 390. We acknowledge that this figure is likely overstated as the CDC reports place of death (e.g., hospital, at home, nursing home), so the counts for people outside nursing homes in places like hospitals, emergency rooms and hospice facilities would include some nursing home residents as well.

<sup>11</sup>More information can be found at <http://ltcfocus.org/>.

<sup>12</sup>More details, as well as the methods for calculating the overall rating can be found at:

<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/downloads/brieffivestartug.pdf>

<sup>13</sup>Homes are to report all deaths regardless of location, e.g., in the home or in a hospital (CMS, 2020c). The module instructions (CDC, 2020b) define a COVID-19 death as “a resident with suspected or a positive COVID-19 test result who died in the facility or another location as a result of COVID-19 related complications.” The instructions state the following regarding the reporting of marginal COVID-19 deaths: (i) suspected deaths are those that are being managed for COVID-19 symptoms, but do not have a positive test, and these symptoms play a role in their death; (ii) someone without a positive test or symptoms who dies from complications associated with COVID-19 and later has COVID-19 diagnosed in autopsy, should be coded (retrospectively) as a COVID-19 death; (iii) someone previously diagnosed or suspected to be COVID-19 positive, who dies after recovery should *not* be counted as a COVID-19 death.

<sup>14</sup>Other time periods look very similar and are available upon request.

<sup>15</sup>Nursing home characteristics are missing for some homes; thus, we include missing variable indicators as well.

<sup>16</sup>County-level COVID-19 cases are included as a measure of the intensity of the virus locally. As death occurs on average 18.5 days after symptom onset (Zhou et al. 2020) and the incubation period is 4-5 days on average (CDC, 2020c) we measure cases 23 days prior to death. All models are robust to controlling for the county's non-nursing home death rate rather than the case rate.

<sup>17</sup>Results are very similar if the inspection rating is used in place of the overall rating. Results for all quality measures are available upon request.

<sup>18</sup>Across the seven specifications, we find that homes with more beds, larger black populations, and located in larger cities with higher case rates nearly always have more COVID-19 deaths, while homes with younger populations have fewer deaths. We also find that for-profit homes have significantly more deaths. These results are available upon request.

<sup>19</sup>We obtained 2016 presidential vote share data from <https://electionlab.mit.edu/data>.

<sup>20</sup>We explored an additional, related mechanism – that higher-quality nursing homes provided better care conditional on infections, leading to a lower death rate. To do so, we returned to Equation 1, but controlled (separately) for whether any staff or residents had tested positive for COVID-19, as well as the total number of staff and resident cases. If high-quality facilities only prevent death by reducing cases, then we would expect quality to have no impact on death counts in this model. Estimates can be found in Table 4, row 11. Conditional on cases, higher-quality facilities still have far fewer deaths. This could mean that higher-quality homes reduce mortality by doing a better job of managing COVID-19 cases, that is, they monitor patients closer, are more aggressive at seeking treatment, etc.

<sup>21</sup>As of September 13<sup>th</sup>, 2020, one-star homes reported significantly fewer staff cases, conditional on having a single staff case. By April 25<sup>th</sup>, 2021, the staff cases were increasing with the star rating throughout the rating distribution. This somewhat unintuitive result is likely explained by higher-quality homes simply testing their staff more frequently and, thus, measuring more cases. We will provide evidence of this below.

<sup>22</sup>We note the possibility that facilities could have shortages of PPE because the staff is more aggressive at using this equipment. Moreover, as COVID-19 is primarily spread through the air, gown, glove, and sanitizer shortages likely have little impact on disease transmission. At the same time, shortages of basic PPE may signal something about the quality of the home's management and the home's general adherence to COVID-19 protocols; hence, we present the results for these types of PPE as well.

<sup>23</sup>An interesting question in light of these findings is, "How much of the inverse relationship between COVID-19 deaths and nursing home quality is explained by higher-quality nursing homes avoiding staff and PPE shortages?" To answer this, we return to our baseline model, but add controls for shortages. In particular, among the nine staff and PPE measures, we calculate for each nursing home the number of shortages experienced between May 24<sup>th</sup> and September 13<sup>th</sup> of 2020 (e.g., if a home experienced a nursing shortage and an n95 mask shortage over this period, we would measure their total as 2). The results from this are in row 12 of [Table 4](#). The results suggest that staff and PPE shortages can explain some of the quality gradient we report in [Table 3](#). For example, in the basic model we estimate that five-star homes have 15.4 percent lower COVID-19 mortality than one-star homes. This number moves to 13.6 once we control for these shortages, meaning they can explain about 10 percent of the quality gradient.

<sup>24</sup>Testing data is only reported in the CMS data from August 16<sup>th</sup> through November 22<sup>nd</sup> of 2020.

<sup>25</sup>As nursing homes can only report such testing if a new positive case arises, we condition our analysis on facilities with a new positive case because higher-quality facilities have already been shown to have fewer positive cases.

<sup>26</sup>The data are from the Weekly Places Patterns data series, which SafeGraph makes available free of charge to researchers. The files contain hourly counts of foot traffic to about 4 million points of interest in the US. Traffic is monitored using cell phone location services. Locations are organized by NAICS code; nursing homes are code 623110. The vertical axis contains aggregate counts, adjusted for devices per person in the state, as is recommended by SafeGraph.

<sup>27</sup>To fix ideas, consider two nursing homes that differ only in overall quality. Each has ten fragile residents that, independent of COVID-19, would have died in 2020. Now, assume that five of the residents in the low-quality home die in early 2020 of COVID-19. In the data, we then observe ten non-COVID deaths in the high-quality home and just five such deaths in the low-quality home.

<sup>28</sup>In May and September of 2020 (rows 15 and 16), the relationship between nursing home quality and total deaths is positive, despite the fact that the impact of quality on COVID-19 deaths (rows 1 and 2) is larger in percentage terms than the impact of quality on non-COVID deaths (rows 8 and 9) in the same times periods. This peculiarity is explained by there simply being more non-COVID deaths than COVID-19 deaths. For example, consider September 13<sup>th</sup>, 2020. Row 2 suggests that five-star homes had  $(0.154 \times 3.672)$  0.565 fewer COVID-19 deaths than one-star homes. Row 9 suggests that five-star homes had  $(0.114 \times 10.151)$  1.157 more non-COVID deaths than one-star homes.



<sup>29</sup>For this analysis, we use the “occupied beds” variable the CMS data to calculate the average weekly occupancy rate in each nursing home between May 24<sup>th</sup>, 2020 and April 25<sup>th</sup>, 2021. We then control for the occupancy rate in our April 25<sup>th</sup>, 2021 total death regression (row 18 of [Table 3](#)). While the occupancy rate is positively associated with total deaths, the estimated quality effects are statistically indistinguishable from our main findings. (Results available upon request.) Note that we do not include the occupancy rate in all models because it is an imperfect (i.e., likely endogenous) control, as deaths in period  $t$  influence the occupancy rate in period  $t + 1$ .

<sup>30</sup>SafeGraph does not track the universe of cell phones; thus, the point of interest data can be sparse when facilities are small or located in rural environment. Among the 12,300 matched homes, over a thousand have zero visitors on more than a third of the days over our time-horizon. Thus, some of our specifications remove these 1000 homes with a high frequency of zero visitors, while others look only at homes with 100+ total beds. Both specifications remove measurement error, thereby improving the precision of our estimates.

<sup>31</sup>In a memo released September 17<sup>th</sup> outlining revised procedures for nursing homes during the pandemic, CMS notes that “...we recognize that physical separation from family and other loved ones has taken a physical and emotional toll on residents. Residents may feel socially isolated, leading to increased risk for depression, anxiety, and other expressions of distress. Residents living with cognitive impairment or other disabilities may find visitor restrictions and other ongoing changes related to COVID-19 confusing or upsetting” ([CMS, 2020b](#)). In this memo, CMS outlines policies for outdoor visitation and relaxed policies for indoor visitation in lower-risk settings such as counties with low positivity rates in the general population.

<sup>32</sup>Note that step 1 guarantees that COVID and non-COVID deaths are non-missing regressors in step 2. Furthermore, by imputing backwards, we guarantee that these regressors are non-missing in every week. Finally, note that the imputation takes place week-by-week to account for (i) various COVID-19 waves that have occurred over time and (ii) the fact that some homes report cumulative cases, while others report weekly cases in the first week of reporting, May 24<sup>th</sup>, 2020.

<sup>33</sup><https://covidtracking.com/nursing-homes-long-term-care-facilities/data-by-state>

## Appendix A. Preparation of the estimation sample

We downloaded the CMS Covid-19 Nursing Home data file on August 2nd, 2021, which contains information reported through the week of July 18th, 2021; 61 weeks total. Our analysis is limited to the weeks ending May 24th, 2020 through May 9th, 2021; 51 weeks. Over this time-frame, 15,421 homes report data to CMS in at least one week. Squaring the data produces 786,471 home-week observations. Roughly 10 percent of these observations are missing or are flagged by CMS for poor quality (henceforth, “problem” observations); however, a small minority of homes account for most of the errors. We drop all homes with more than ten problem observations; 15,110 homes and 770,610 observations remain, which includes just 4574 problem observations (0.59 percent of all observations), 28 percent of which are in the first two weeks of reporting.

Cumulative death counts are calculated by CMS from weekly death reports; thus, any problem observations create measurement error in all cumulative counts moving forward. As such, we impute weekly death counts for all problem observations and recalculate the cumulative counts using the procedure that follows. **Step 1:** For the weeks ending May 2nd and May 9th of 2021 (not used in

any regression analysis in the paper), we regress weekly COVID-19 deaths and weekly non-COVID deaths on new county COVID-19 cases and the number of beds, as well as quadratics of these variables, for all non-problem observations. We then use the regression coefficients to predict weekly COVID and non-COVID deaths for problem observations in these weeks. **Step 2:** Starting with the week ending April 25th, 2021 (the last week used in regression analysis in the paper), we predict weekly COVID (non-COVID) deaths for problem observations using new county COVID cases and the number of beds, as well as quadratics of these variables, *and* COVID (non-COVID) deaths over the following two weeks at the nursing home. **Step 3:** repeats step 2 recursively for the weeks ending April 18th, 2021 through May 24th, 2020.<sup>32</sup>

Finally, note that among the 15,110 homes that comprise our final CMS sample (e.g., see summary statistics in Appendix [Table A3](#)), 205 homes cannot be matched to a home in the star-quality data, which explains the sample size of 14,905 in our main regression analysis.

## B. Data quality check

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To validate aggregate death counts in the CMS nursing home data, we compared it to data compiled by the COVID-19 Tracking Project (CTP), a web page maintained by the Atlantic.<sup>33</sup> The authors of the web page aggregate weekly data on COVID-19 deaths among nursing home residents using state COVID-19 dashboards, private correspondences with states, and state press conferences. For many states, the CTP has data by individual facility. In these cases, we aggregated data by week up to the state level. Some states report weekly totals separated by sector (e.g., nursing homes, assisted living, etc.) while other states aggregate these sectors together making the data not comparable to the CMS statistics. Dropping states that either do not report nursing home deaths, do not distinguish between nursing homes and other senior living facilities like assisted living, or do not report until after the first CMS weekly report on March 24th, 2020, we can generate consistent data from the two sources for 37 states. The CTP stopped collecting this data by March 7th, 2021.

In [Table A1](#), we report in the first column aggregate deaths in the first CMS nursing home report for the week ending May 24th, 2020, plus data from the CTP for the 37-state sample. The CMS data under-reports death counts by 14.5% for this first report. This is due to two potential limitations of the CMS data. First, some nursing homes did not report that first week. We believe this is a small component of the problem as mortality data is reported for 98% of nursing homes that week. Second, at the time of the first CMS report (May 24th), CMS allowed nursing homes the choice to report cases and deaths from the prior week *or* cumulative cases and deaths since January 1st. Thereafter, homes report weekly counts and a cumulative count is calculated by CMS; thus, if a home fails to report the cumulative count since January 1st on May 24th, the cumulative count that CMS calculates in future weeks is incorrect. In the second column of [Table A1](#), we report cumulative COVID-19 deaths through the last week of data in the CTP and in the final column, we compare the difference between the last and first dates. The fraction undercount in the CMS data is only 5.6 percent in early March 2021, and the difference in counts between these two dates is only 3.3 percent. These results suggest that the major under-reporting in the CMS data is occurring in the first week, but that cumulative counts after the first week are more comparable to what nursing homes are reporting to states.

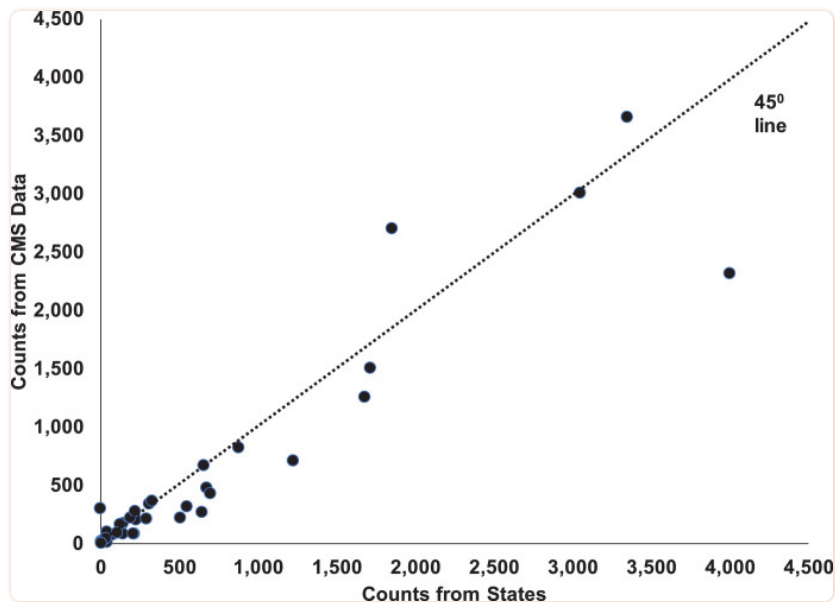
Table A1

Comparing State and CMS Reports of COVID-19 Deaths in Nursing Homes for 37 States.

Source	Deaths as of 5/24/2020 (a)	Deaths as of 3/7/2021 (b)	Δ deaths (b) – (a)
CMS (1)	21,189	104,374	83,185
State facility reports (2)	24,286	110,254	85,968
Difference (2) – (1)	3079	5880	2783
% difference (2) – (1)	14.5%	5.6%	3.3%

Calculations made for the 37 US states reporting COVID-19 deaths among nursing home residents on state dashboards. State facility reports refer to the death counts from these dashboards, while CMS refers to the deaths counts in the CMS COVID-19 surveillance data discussed in [Section II.A](#).

This is visually verified in [Fig. A1](#) where we plot on the horizontal axis the nursing home death counts as of March 24th, 2020 in the CTP data, while the vertical axis has the comparable data from the CMS data for our 37-state sample. There are a noticeable number of points that fall below the 45-degree line, indicating CMS undercounts relative to CTP (i.e., state reports) at that time.

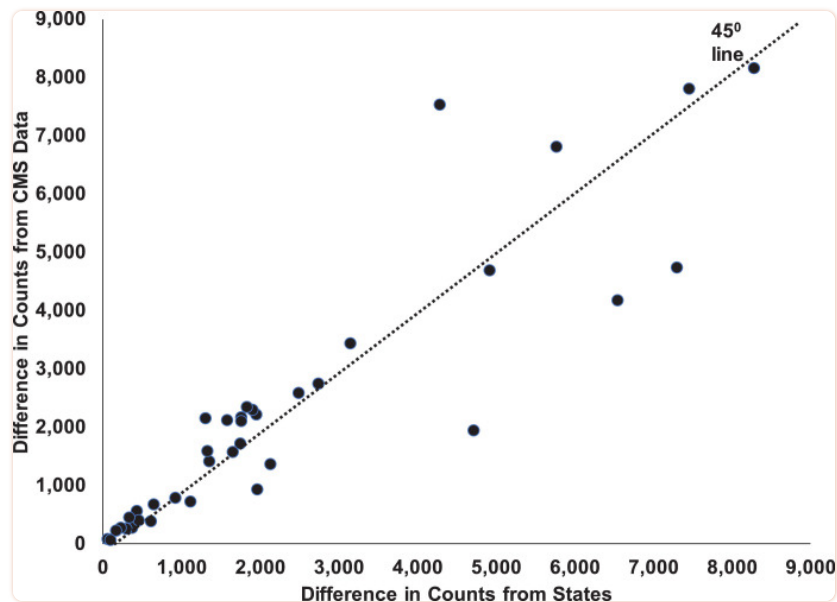


[Fig. A1](#)

Scatter Plot, State and CMS Reports of COVID-19 Deaths in Nursing Homes for 37 States, As of 5/24/2020

Observations are the 37 US states reporting COVID-19 deaths among nursing home residents on state dashboards. The horizontal axis measures death counts from these dashboards, while the vertical axis measures deaths counts in the CMS COVID-19 surveillance data discussed in [Section II.A](#).

In [Fig. A2](#) , we re-do [Fig. A1](#) but use the difference in counts between March 2021 and May 2020 as the outcome of interest. Here there is a much more even spread of points around the 45- degree line.



[Fig. A2](#)

Scatter Plot, State and CMS Reports of COVID-19 Deaths in Nursing Homes for 37 States, Difference between 3/7/2021 and 5/24/2020

Observations are the 37 US states reporting COVID-19 deaths among nursing home residents on state dashboards. The horizontal axis measures death counts from these dashboards, while the vertical axis measures deaths counts in the CMS COVID-19 surveillance data discussed in [Section II.A](#).

These numbers suggest that to accurately assess the cumulative impact of COVID-19 mortality in nursing homes, we need to inflate the first week's numbers then recalculate cumulative deaths after that point. In [Table A2](#) , we calculate cumulative deaths as of August 15th, 2021 by inflating the first CMS report by 14.5%, then adding to this the cumulative deaths reported to CMS between the first report and August 15th, 2021. Using this method, we estimate that there were 137,318 COVID-19 deaths among nursing home residents as of August 15th, 2021. At that point in time, there were 634,179 COVID-19 deaths in total in the US, meaning that 21.7% of COVID-19 deaths were to nursing home residents.



## Table A2

National Estimates of COVID-19 Deaths in Nursing Homes from Inflated CMS Data, As of 8/15/2021.

Number	Death Count
(1) National estimates as of 5/24/2020	25,354
(2) Inflate by 14.5%	29,030
(3) Change between 8/15/2021 and 5/24/2020	108,288
(4) total (3) + (2)	137,318

Row 1 measures death counts among nursing home residents in all 50 states as reported in the CMS COVID-19 surveillance data discussed in [Section II.A](#). Row 2 inflates this figure by the estimated 5/24/2020 undercount calculated in [Table A1](#). Row 4 adds to this figure deaths reported to CMS after 5/24/2020 (Row 3) which we've shown are more accurately reported.

Table A3

Sample Characteristics, CMS Data on Nursing Homes, as of September 13th, 2020.

Variable	Mean	S.D.
Total beds	106.222	58.858
Share of female residents	0.663	0.119
Share of female residents, missing	0.086	0.280
Share of residents under 65 years old	0.226	0.177
Share of residents under 65 years old, missing	0.547	0.498
Share of black residents	0.165	0.220
Share of black residents, missing	0.446	0.497
Share of hispanic residents	0.049	0.134
Share of black residents, missing	0.421	0.494
Share of residents on Medicaid	0.599	0.230
For profit	0.702	0.457
Acuity index	12.189	1.479
Medicaid, profit, and acuity missing	0.062	0.242
Observations	15,110	

The construction of this sample is discussed in Appendix Section A. Total beds is measured using the CMS COVID-19 surveillance data discussed in [Section II.A](#). All other variables come from the LTC Focus database at Brown University.

### C. CMS star quality ratings

The nursing home star ratings come from data.medicare.gov. There are three separate ratings – inspection, quality measures (QM), and staffing – which are aggregated by CMS into an overall rating. All three ratings, as well as the overall rating, measure quality in integer “star” values, where five-star is the best possible rating and one-star is the worst.

The inspection rating is based on results from the home's three most recent state health inspections in a three-year period, with more weight given to the most recent inspections, as well as investigations stemming from formal complaints. The ratings used in our analysis were first reported by CMS in June of 2020 and we can verify in the data that the latest inspections informing the rating took place in February of 2020, before the start of the pandemic. The QM rating is based on a home's self-reported ability to manage and prevent certain negative health outcomes (e.g., bedsores, ED visits, chronic pain, major injuries resulting from falls, urinary tract infections, etc.). The staff rating is a function of the reported number of registered nurses and total staffing hours relative to the number of residents.

As the inspection rating is the only measure calculated from data that is not self-reported, it is viewed as the most objective and, thus, is given greater weight in the calculation of the overall star rating (Williams et al., 2010). The rating system has been criticized by many, especially the QM and staff rankings portions. Exposed by the New York Times at various points in time (e.g., Thomas, 2014; Silvger-Greenberg and Gebeloff, 2021) demonstrate that for many nursing homes, the self-reported data is at best incomplete and at worst fraudulent. Looking at the QM data, Sanghavi et al. (2019) document that only 57% of nursing home falls are reported to CMS. Comparing Medicare claims for inpatient services with data reported to CMS for the five-star ranking, Integra Med Analytics (2021) found little correlation for hospital claims based measured of quality and what is reported in the five-star data for urinary tract infections, falls, and bed sores. Numerous authors have shown that the inspection rating is predictive of better health outcomes among residents (Fuller et al., 2019; Perrailon et al., 2017), but the strength of the relationship is in question for some scales. In one of the largest studies to date, Neuman et al. (2014) found the inspection rating predicted hospital readmissions for people discharged to a nursing home but the staff rating did not.

Surveys suggest that the rating system is correlated with family and resident satisfaction with care (Çalikoglu et al., 2011), but that the inspection rating seems to be most correlated with these measures of satisfaction (Williams et al., 2016).

The rating distributions across homes in our sample can be found in Appendix Table A4 below. In Appendix Table A5 we report the correlation coefficients across nursing homes for the four measures. It is not surprising that the overall quality and the inspection scale are the most correlated since the latter is weighted most heavily when calculating the former. The level of correlation between the inspection rating and QM and staff ratings is very low; the latter two ratings are also not highly correlated with one another.

Table A4

Distribution of Inspection Ratings in CMS Nursing Home Data.

Star rating	Overall rating	Inspection rating	QM rating	Staff rating
1	0.151	0.193	0.049	0.075
2	0.193	0.236	0.126	0.247
3	0.178	0.224	0.196	0.276
4	0.213	0.233	0.251	0.215
5	0.252	0.102	0.363	0.114
missing	0.014	0.014	0.014	0.074
Observations	15,110			

Sample construction is discussed in Appendix Section A. Star ratings are taken from the CMS website.

Table A5

Correlation if the Inspection Ratings in CMS Nursing Home Data.

Star rating	Overall rating	Inspection rating	QM rating	Staff rating
Overall rating	1.000			
Inspection rating	0.860	1.000		
QM Rating	0.504	0.233	1.000	
Staff rating	0.478	0.221	0.212	1.000

Sample construction is discussed in Appendix Section A. Star ratings are taken from the CMS website.

Table A6

Robustness Analysis, non-COVID deaths measured 9/13/2020 unless stated otherwise.

Model	Sample Mean	Obs	Overall star rating			
			2-star	3-star	4-star	5-star
(1) Baseline (Table 3, row 9)	10.15	14,905	0.034 (0.029)	0.070 (0.031)	0.088 (0.034)	0.114 (0.041)
(2) Model (1), but Poisson	10.15	14,905	0.045 (0.052)	0.051 (0.085)	0.043 (0.072)	0.059 (0.057)
(3) Model (1) but OLS with ln(deaths+1)	8.84	11,532	0.033 (0.038)	0.091 (0.038)	0.118 (0.042)	0.123 (0.053)
(4) Model (3) but add county FE	1.84	14,905	0.041 (0.034)	0.073 (0.034)	0.099 (0.036)	0.127 (0.047)
(5) Model (1) but OLS with inverse hyperbolic sine of deaths	1.84	14,905	0.069 (0.046)	0.071 (0.046)	0.127 (0.049)	0.159 (0.064)
(6) Model (5) but add county FE	2.29	14,905	0.047 (0.041)	0.089 (0.040)	0.117 (0.044)	0.148 (0.056)
(7) Model (1) but OLS with inverse hyperbolic sine of death rate (per 100 beds)	2.29	14,905	0.080 (0.055)	0.088 (0.055)	0.151 (0.059)	0.186 (0.077)
(8) Model (7) but add county FE	2.29	14,905	0.047 (0.041)	0.089 (0.040)	0.117 (0.044)	0.148 (0.056)
(9) Model (1) but add controls for staff hours per resident day	2.29	14,905	0.080 (0.055)	0.088 (0.055)	0.151 (0.059)	0.186 (0.077)
(10) Model (1) but add controls for republican share of county	10.15	14,558	0.031 (0.030)	0.064 (0.033)	0.081 (0.035)	0.112 (0.042)
(11) Model (1) but add controls for any staff and resident cases, as well as counts	10.15	14,888	0.033 (0.029)	0.071 (0.031)	0.090 (0.034)	0.118 (0.041)
(12) Model (1) but add controls for shortage counts	10.15	14,905	0.032 (0.029)	0.072 (0.031)	0.087 (0.034)	0.112 (0.039)

Standard errors allow for arbitrary correlation across observations within a state. Other controls in the models include logged total beds; percent of residents that are female, under 65, black, Hispanic, on Medicaid (along with corresponding indicators for missing variables); for-profit status; acuity index; county-level COVID-19 cases per 1000 residents (measured 23 days prior to death); logged county population; and a full set of state fixed effects.



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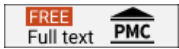
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doi: 10.1001/jamanetworkopen.2021.22885.

# Estimates of COVID-19 Cases and Deaths Among Nursing Home Residents Not Reported in Federal Data

Karen Shen <sup>1</sup>, Lacey Loomer <sup>2</sup>, Hannah Abrams <sup>3</sup>, David C Grabowski <sup>4</sup>, Ashvin Gandhi <sup>5</sup>

## Affiliations

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## Abstract

**Importance:** Federal data underestimate the impact of COVID-19 on US nursing homes because federal reporting guidelines did not require facilities to report case and death data until the week ending May 24, 2020.

**Objective:** To assess the magnitude of unreported cases and deaths in the National Healthcare Safety Network (NHSN) and provide national estimates of cases and deaths adjusted for nonreporting.

**Design, setting, and participants:** This is a cross-sectional study comparing COVID-19 cases and deaths reported by US nursing homes to the NHSN with those reported to state departments of health in late May 2020. The sample includes nursing homes from 20 states, with 4598 facilities in 12 states that required facilities to report cases and 7401 facilities in 19 states that required facilities to report deaths. Estimates of nonreporting were extrapolated to infer the national (15 397 facilities) unreported cases and deaths in both May and December 2020. Data were analyzed from December 2020 to May 2021.

**Exposures:** Nursing home ownership (for-profit or not-for-profit), chain affiliation, size, Centers for Medicare & Medicaid Services star rating, and state.

**Main outcomes and measures:** The main outcome was the difference between the COVID-19 cases and deaths reported by each facility to their state department of health vs those reported to the NHSN.

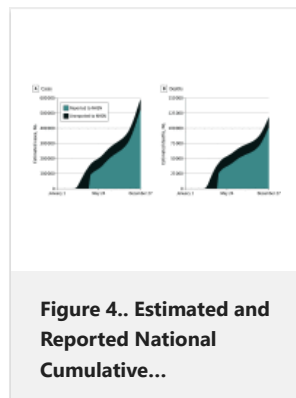
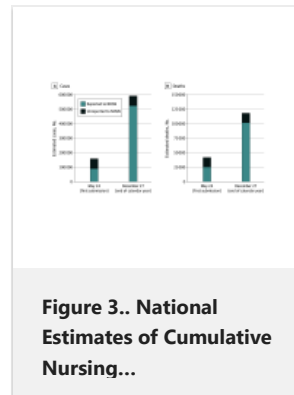
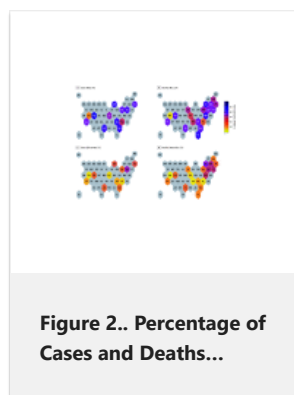
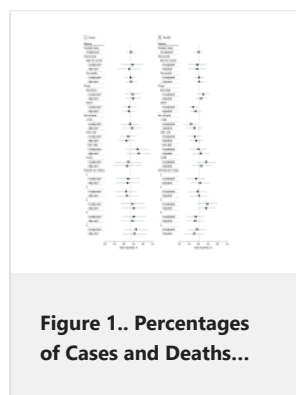
**Results:** Among 15 415 US nursing homes, including 4599 with state case data and 7405 with state death data, a mean (SE) of 43.7% (1.4%) of COVID-19 cases and 40.0% (1.1%) of COVID-19 deaths prior to May 24 were not reported in the first NHSN submission in sample states, suggesting that 68 613 cases and 16 623 deaths were omitted nationwide, representing 11.6% of COVID-19 cases and 14.0% of COVID-19 deaths among nursing home residents in 2020.

**Conclusions and relevance:** These findings suggest that federal NHSN data understated total cases and deaths in nursing homes. Failure to account for this issue may lead to misleading conclusions about the role of different facility characteristics and state or federal policies in explaining COVID outbreaks.

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## Figures



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Elders in residence

## It has the highest death rate of any nursing home in the US. Families want to know why

As numbers climbed at a facility for veterans in New Jersey, the rights of grieving family members fell away

by [Ann Neumann](#)

EXHIBIT 1

Experts say proper infection control, long a problem in nursing home care, could have largely mitigated the number of deaths. Illustration: Erre Gálvez/The Guardian

Wed 28 Oct 2020 01:00 EDT

*Update, 7 January 2022: Last week **New Jersey** awarded \$53m to more than 100 families of veterans who died in two nursing homes in the state, Menlo Park and Paramus. The settlement, likely the first in the country for Covid deaths at a medical facility, answers a question that families of nursing home residents across the country have been asking since the early months of the pandemic when a rash of immunity laws were passed at the state level to protect nursing home operators: can immunity laws prevent facilities from being held to account for Covid deaths? One lawyer, Paul da Costa, who represented the families of 74 residents of Menlo Park, told us in late 2020 that he believed the laws would not impede justice. He was right. The families he represented will receive more than \$440,000 each. Understaffing, rampant fraud, supply shortages and other chronic issues continue to plague the long-term care industry; how the settlement will influence reform that protects residents from present and future waves of the virus is still unclear.*

By noon on 16 September, more than 100 people had gathered at the end of the long drive that leads to the Menlo Park Veterans' Memorial Home in New Jersey. Eighteen-inch letters - red, white, and blue - spelling "THANK YOU HEROES" were pushed into the sod beneath a semi-permanent sign that reads "Now accepting job applications" and "SERVING THOSE WHO SERVED".

Staff members - mostly Black, mostly female - stood to the right of a podium. To the left stood family members holding framed photos of their loved ones, former residents of Menlo Park who had died over the past several hellish months, either in the facility or in a nearby hospital.

Gary White, the no-nonsense, cigar-chewing commandant of the local Marine Corps League - an 80-year-old federal organization and advocacy group for marine veterans - organized the event. White told the crowd that Menlo Park's residents had, as service members, "given America a blank check payable up to and including their lives", but that during the pandemic, "veterans died who never should have". A week before the protest, White had received calls and emails from family members who were shocked by their loved one's deaths, who had never even been told their father or grandfather was sick. "They asked me to do something," he said.





Left to right: Nancy Pike holds a photograph of her father Alois Franko; Susan Vella holds a photograph of her father Frank Vella; and Keith Prendergrast holds a photograph of his father William Prendergrast. Photograph: Victor J Blue/The Guardian

By late May, there were only 177 residents at Menlo Park, down from 300 in early March. [A recent Wall Street Journal investigation](#) shows that many of the dead were never tested for Covid-19, their official cause of death recorded as pneumonia or sepsis. Though the facility's management maintains that the official death count from Covid-19 is 62, the investigation concluded that 101 residents had died of Covid-19 at Menlo Park since March, the highest single death rate of any nursing home in the country.

At the protest, families and staff cited a gross lack of communication about what was happening inside the facility, a senseless ban of mask-wearing in the early weeks of the pandemic, and a continued effort to cover up the total number of deaths at Menlo Park, as the cause of their attendance. "Negligence is Murder," read one sign, held by a grieving family member, "Where was their PPE?" Outraged by the mass deaths, at least 35 families and 22 employees have retained lawyers.

The protest was brief, but one family member, White told me, said it was

EXHIBIT 1

box

the only memorial they'd had for their grandfather. As people in the crowd wiped their eyes and began to wander back to their cars, staff members gathered around Shirley Suddoth-Lewis, the president of their local union who has worked at Menlo Park since 1984, as she

handed out white balloons. When they released them into the air they said in unison the name of their colleague, Monemise Romelus. She had contracted Covid-19 before she was given access to PPE and died in May.

They want accountability. They want transparency. They want justice. But in April, New Jersey passed an immunity law intended to protect nursing home owners from responsibility for Covid-19 deaths, a law that nursing home operators hope will stand in the way of what the bereaved most desire. Despite the fact that nationally more than 50,000 nursing home residents and 750 staff members have died so far from Covid-19, at least 26 states have passed some form of immunity law that shields long-term care facilities and healthcare providers from Covid-19-related civil negligence lawsuits. [A recent article in ABA Journal](#), a publication of the American Bar Association, states: "Those measures generally bar claims for standard negligence, only allowing claims for harder-to-prove gross negligence, willful misconduct or fraud."

Immunity laws are often passed by state and federal governments in the event of a crisis. But the decision to protect the nursing home industry, betrays legislators' - and perhaps society's - erroneous assumption that elders' deaths were inevitable, that their lives were worth little or too frail to be saved. Clinicians and advocates alike have countered that proper infection control, long a systemic problem in nursing home care, could have largely mitigated the number of deaths.





Tanya Montuore cries as her husband Robert Montuore comforts her. Photograph: Victor J Blue/The Guardian

“This is simple,” Robert Montuore told me, “if they had just followed standard protocol.” His wife, Tanya stood next to him, holding a photo of her father, former marine Howard H Cognac Sr, who died at Menlo Park in April.

“Pop” lived with the Montuores and their daughter, Samantha, for 12 years after the death of his wife, Celeste. But when he began to use a mobility chair, the Montuores moved him into room 511 on Eagle wing at Menlo Park in February. The Montuores spoke with him daily, with Tanya joining her father for lunch at Buddy’s, the restaurant in Menlo Park’s “town hall”, almost every day. The last lunch she had with him was on 11 March; the following day the facility notified the Montuores that Menlo Park was closed to visitors. As staff and family gathered for the protest, the Montuores told me about the horror of the next four weeks, as they struggled to get Pop on the phone or to receive reliable updates from Menlo Park staff.

According to a letter the Montuores wrote to their local senator, assemblywoman and Gary White (who shared it with me, with permission) Pop called them a last time a little after 8pm on 5 April, “hysterical” because management had taken away his mobility chair and put him in a bed without

a call button. “His final words were, ‘I’m not going to make it out alive,’” the Montuores wrote. “That was the last conversation we had with him.” Two days later they were told that Cognac was having trouble breathing and had an elevated heart rate, two signs of Covid-19 infection. They begged for a test. “No fever, no test,” they were told repeatedly by staff over the next few days. At one point, a staff member used her personal phone to help Pop speak to his family. Then on 11 April the facility’s nurse practitioner called to tell them that Pop was failing; when they asked if he had Covid, she said no, heart failure.

On the 16th, they called again for an update on Pop’s status. An hour later the nurse practitioner called back to tell them that he was dead.

**■ Several attorneys I spoke with believe that Menlo Park’s lawsuits are the first in a wave that will sweep the country**

A few days before the protest, the Montuores found out that Pop’s roommate, Daniel Bartus, had died of Covid-19 on 5 April. At the protest, Gary White called Tanya Montuore up to the microphone to speak.

“They were devalued as human beings,” she said of the Menlo Park residents, “and there were countless unnecessary deaths, of my dad and so many others. Why?” She paused to wipe tears from her face. The next day the Montuores sent me two last telephone messages they received from Cognac, found after his death as they put together information for a case against Menlo Park for their lawyer. “Hi T,” Cognac says, explaining that he can’t use the phone very much because his wing is on lockdown. And then his voice breaks. “I’m worried, Honey” he says, and in a whisper, “I think I have one of the [symptoms]. I love you, Honey. If anything happens ... ” A sob. “I miss you so much.”

The Montuores are only one of dozens of Menlo Park families who are seeking legal accountability for the loss of their loved ones. They fear that state and non-profit defendants will successfully leverage immunity laws to escape legal repercussions; but knowing the pain and suffering of their loss, they can’t imagine the courts won’t also want to know why helpless elders were left to die. Several attorneys I spoke with believe that Menlo Park’s lawsuits are the first in a wave that will sweep the country.





Daria Lisco, left, and Liz Vigren, right, hold photographs of their father Charles VanderPyle. Photograph: Victor J Blue/The Guardian

State and federal long-term care advocates loudly opposed immunity laws and claim that the firestorm of Covid-19 that has ravaged long-term care facilities was only made possible by decades of poor management, gross understaffing, debilitating cost cutting, systemic Medicare and Medicaid fraud, poor infection control and the lack of meaningful federal or state oversight of residents' care. "Legal liability has always functioned as a safeguard for nursing home residents by incentivizing nursing homes to provide quality care and comply with laws and regulations," advocates wrote in a letter to the Senate judiciary committee on 11 May.

Nonetheless, in New York, a provision was included in the annual budget, passed in April, that provided broad immunity to long-term care facilities. Governor Andrew Cuomo has drawn criticism for organizing the transfer of elderly Covid-positive patients from overwhelmed hospitals to nursing facilities. In August, the law was amended and significantly narrowed, removing protections for non-Covid patients.

On 6 May, the Pennsylvania governor, Tom Wolf, passed an executive order granting immunity. Still, several lawsuits have already been filed in Pennsylvania, including one by the family of Elizabeth Wiley, a housekeeper who had worked at Brighton Rehabilitation and Wellness in Pittsburgh for three decades and died of Covid-19 on 10 May.

EXHIBIT 1

Robert Sachs Jr, an attorney in Pennsylvania, where the nursing home deaths have made up between 60 and 70% of Covid-19 deaths so far, has learned from case inquiries, that many facilities “had the ability and the knowledge of what was coming to protect their populations and didn’t take any steps”. He added that the department of health “did an absolutely abysmal job” of helping facilities to prepare for the pandemic.

On 1 April, the New Jersey governor, Phil Murphy, enacted an executive order that granted broad immunity to nursing homes and healthcare providers and little more than a week later, he also signed a law. But there’s also a federal law, the Prep Act, a pandemic readiness plan passed in 2005 by the George W Bush administration in the wake of the avian influenza, that some facilities hope will provide them with immunity protections.

Yet, some attorneys, like Paul da Costa in New Jersey, who is representing dozens of Menlo Park staff and family members, believe that some claims may not be confined to the Prep Act laws (which address *use* of medical countermeasures) because they address *absence* of measures, namely the lack of proper infection control, and the now common accounts of management preventing mask and other PPE use.

In perhaps the first post-Covid decision of its kind, Estate of Maglioli v Andover Subacute Rehab, the courts have shown a willingness to see such cases go ahead. Plaintiffs asked the federal court to remand the case back to the state, against the defendants’ argument that the Prep Act prevented the case’s continuation. The court agreed with the plaintiffs, leaving the decision up to the state court.



Showcase

## Graphic

Glenn Osborne watched the protest from inside Menlo Park. “What a privilege that was to witness,” he told me by email. I’d met him in person the week before by taking advantage of Menlo Park’s new visitation program, “Operation Rocking Chair”, which allows residents and visitors to spend 15 minutes together, masked, outside, six feet apart. I saw a steady stream of grateful sons and daughters file through the registration pavilion (reservations must be made in advance) the day I visited Osborne. I was his first visitor in six months.

Osborne is a former marine with service-induced ALS. He speaks in a breathy, halting voice because the disease has restricted his breathing. Osborne, who is kind-faced, laser-focused and tireless, is the president of the resident’s association. If anything is on the minds of residents at the facility, they call on him. For that reason, staff members told me they worried about Osborne; he’d been writing letters to the facility’s administration and related agencies with various concerns for years. They feared management retaliation against him.

Shirley Suddoth-Lewis, who worked at Menlo Park for more than 30 years, knew from experience; she also feared retaliation from the CEO, Elizabeth Schiff-Heedles, who called an all-staff meeting on 16 March to announce there was no Covid in the building. “She told us, ‘We don’t want anyone to



wear masks, the masks will scare the residents,” Suddoth-Lewis said. “Everybody was in the lunchroom and you could tell people wanted to ask questions, but they were afraid because they might go after you.”

## ■ ■ *Let's be candid, we know this is what we call our final mission*

### Glenn Osborne

But Osborne felt a strong sense of responsibility to his fellow residents and refused to be quiet. In a single-spaced, three-page letter to the department of health in August, Osborne addressed the toll that isolation has taken on the residents, leaving them to feel forgotten, disregarded, alone. He asked when outside time will resume, when residents, whose personal belongings were boxed up by the national guard during the height of the pandemic and stored in the basement, will be returned. And he asked questions regarding management's actions in April and May. “Why did our CEO purposely prevent employees from wearing PPE?” he wrote.

Osborne told me residents try not to talk about the losses. “Many of the residents were longtime friends before they ever entered the facility. The people who lived at Menlo Park were vibrant, leading rich lives as artists, writers and storytellers,” Osborne said. “You know, this is our home, this was our life. And we knew what we're here for. Let's be candid, we know this is what we call our final mission.”

Like several others I spoke with, including Suddoth-Lewis, Osborne witnessed PPE being removed from staff members' access. Osborne, Suddoth-Lewis, and others also questioned management's decision to move patients around the facility. Covid-19 positive and Covid-suspicious residents were often moved downstairs, to the dementia ward. One resident of a shared room would be taken downstairs to quarantine while his or her roommate remained. Or patients would be returned to shared rooms when they came back from the



Shirley Suddoth-Lewis, head of the local AFSCME union, worked at Menlo Park for more than 30 years. Photograph: Victor J Blue/The Guardian

hospital. These accounts - and the methodology behind them - bewildered Osborne and many staff members who were unable to ask questions but only follow orders. And if there was a plan to management's mitigation efforts, the veterans and staff were never informed of it. "Transparency in communication in all areas of operations, especially those that pertain directly to us Veterans, is exceedingly rare," Osborne wrote.

Perhaps the most chilling part of Osborne's account is his suspicion that he will be retaliated against. "I know he's going to be a target. I know it," Suddoth-Lewis told me on the phone, "Because this administration is so brutal. I mean they have no remorse." Management has remained opaque and unwilling to consider the input of residents in

their care—or even the professional staff employed to provide it. "We continue to feel our lives are at risk and our patient's rights and dignities are ignored," Osborne wrote in the letter to the department of health.

During my "Operation Rocking Chair" visit a week before the protest, I left some snacks and toiletries for Osborne on the patio for him. For this, management punished Osborne with a citation. Should he receive a second citation, he will altogether lose the ability to see visitors.

For his dogged outspokenness and commitment to bringing residents' concerns forward, attorney Da Costa has called Osborne a hero. To the staff of Menlo Park, Shirley Suddoth-Lewis is a hero too. She had planned to retire in December, but when she started thinking about a second wave of the pandemic, she retired early, a few weeks before the protest. She told me, "It was my anxiety from working there because certain things to me weren't done as they should have been."



In August, state senator Joseph Vitale, chairman of the senate health committee, hosted an online hearing. Gary White, Paul da Costa, and Glenn Osborne all testified about their experiences with Menlo Park. Vitale called for the resignation of the Menlo Park CEO, Elizabeth Schiff-Heedles (who did not return multiple requests for comment). But the spokesman for the New Jersey department of military and veterans affairs, Kryn Westhoven, publicly expressed support for Schiff-Heedles - and the CEOs of the other two veterans' nursing homes in New Jersey, Paramus, where the official death count is at 81, and Vineland, where the count is three. A total of at least five thousand nursing home residents (veterans' and civilian combined) have died in New Jersey.



Veterans and family members release balloons in honor of those they lost. For some, this was the only memorial they'd have for their loved ones. Photograph: Victor J Blue/The Guardian

For now it seems little has been done to address the actions of the Menlo Park administration during the height of the pandemic's first wave - nor to prepare for the potential second wave. Suddoth-Lewis may have retired, but her responsibilities to her fellow union members are not over. As we spoke on the phone one afternoon, three of her great-grandchildren playing in the



background, texts continued to come in, texts from staff members at Menlo Park. We said goodbye so she could check each one.

*This story was supported by the journalism non-profit the [Economic Hardship Reporting Project](#)*

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CORONAVIRUS

## Covid death toll at N.Y. state nursing homes 50 percent higher than reported, AG says

New York still leads the nation in Covid-19 deaths with nearly 44,000, NBC News data shows.



— Refrigeration trucks serve as temporary morgues at the South Brooklyn Marine Terminal in New York on May 25. Noam Galai / Getty Images file

Jan. 28, 2021, 12:04 PM EST / Updated Jan. 28, 2021, 4:56 PM EST

**By Corky Siemaszko**

EXHIBIT 1

The New York state Health Department underreported the Covid-19 death toll in nursing homes by as much as 50 percent, the state's attorney general charged Thursday.

More nursing home residents died from the coronavirus than the Health Department's "published nursing home data reflected and may have been undercounted by as much as 50 percent," Attorney General Letitia James' investigators concluded [in 76-page report](#).

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"As the pandemic and our investigations continue, it is imperative that we understand why the residents of nursing homes in New York unnecessarily suffered at such an alarming rate," James said in a statement.



New York leads the country in the number of Covid-19 deaths with 43,734, according to [the latest NBC News tally](#), most of which occurred in the early days of the pandemic, when public health officials were trying figure out how the disease was spreading.

There was no immediate response from Gov. Andrew Cuomo, a Democrat whose pandemic response has been widely praised but who has also been criticized for waiting until May to

reverse a state policy that required long-term care facilities to accept recovering patients who may still test positive for Covid-19.

Cuomo has insisted that it was up to the nursing homes to alert state health officials if they were not equipped to take care of infected residents. And a report issued by the state in July laid the blame for the more than 8,500 deaths of seniors on staffers who unwittingly infected residents.

Dr. Howard Zucker, the state health commissioner, insisted in a statement that there was no "undercount."

"The word 'undercount' implies there are more total fatalities than have been reported; this is factually wrong," Zucker said. "The OAG's report is only referring to the count of people who were in nursing homes but transferred to hospitals and later died. The OAG suggests that all should be counted as nursing home deaths and not hospital deaths even though they died in hospitals."

Cuomo's office said Thursday the state followed federal guidance when issuing its order on nursing homes.

Zucker added that "the report's findings that nursing home operators failed to comply with the State's infection control protocols are consistent with DOH's own investigation."

Asked at a previously scheduled news conference about the attorney general's report, New York City Mayor Bill de Blasio said, "We have to get the full truth, and we have to make sure it never ever happens again, nothing like this happens again, and we have to be honest about the numbers."

De Blasio and James are also Democrats.

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#### ISRAEL - HAMAS WAR

### Gaza's health system is 'collapsing' and battles are intensifying in the south

State Rep. Elise Stefanik, a staunch supporter of former President Donald Trump, joined other Republicans in calling for the resignations of Cuomo and Zucker.

"This is now more than a nursing home scandal, this is a massive corruption and coverup scandal at the highest level of New York State Government implicating the Governor, the Secretary to the Governor, the New York State Health Commissioner and the Governor's staff," [Stefanik said](#) in a statement.

The attorney general's office launched an investigation last spring after whistleblowers reported that residents who tested positive for Covid-19 were being "intermingled" with healthy residents and that the nursing homes were failing to adequately test workers for the coronavirus and making "sick employees continue to work and care for residents or face retaliation or termination."

***Download the [NBC News app](#) for full coverage of the coronavirus outbreak***

Soon, investigators began noticing discrepancies between the numbers of Covid-19 nursing home deaths they were seeing and the numbers being reported by the Health Department.


"Preliminary data obtained by O.A.G. suggests that many nursing home residents died from Covid-19 in hospitals after being transferred from their nursing homes, which is not reflected in D.O.H.'s published total nursing home death data," a summary of the report reads.

Investigators, in their survey of 62 nursing homes (about 10 percent of the total statewide), also noticed another pattern.

"The investigations also revealed that nursing homes' lack of compliance with infection control protocols put residents at increased risk of harm, and facilities that had lower pre-pandemic staffing ratings had higher COVID-19 fatality rates," the report states.

As a result of the report, the attorney general's office said it will investigate more than 20 nursing homes whose conduct during the first wave of the pandemic "presented particular concern."

The New York State Nurses Association did not weigh in on the alleged death toll undercounting in a statement issued Thursday, but it did applaud James for probing other issues, like the shortages of personal protection equipment that were rife early on in the pandemic.

"The report confirms what we have heard from members since the Spring of 2020: Many long-term care facilities lacked adequate PPE, basic infection control procedures, safe staffing, and quarantine protocols to mitigate the spread of COVID-19 within facilities," the NYSNA said in a statement. "A key finding of the report is that poor staffing increased mortality rates, adding to the large body of evidence that shows safe staffing saves lives." 



Corky Siemaszko

Corky Siemaszko is a senior reporter for NBC News Digital.



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## NY data show nursing home deaths undercounted by thousands



BY MARINA VILLENEUVE, BERNARD CONDON AND MATT SEDENSKY

Published 10:54 AM EST, January 28, 2021

ALBANY, N.Y. (AP) — New York Gov. Andrew Cuomo's administration confirmed Thursday that thousands more nursing home residents died of COVID-19 than the state's official tallies had previously acknowledged, dealing a potential blow to his image as a pandemic hero.

The surprise development, after months of the state refusing to divulge its true numbers, showed that at least 12,743 long-term care residents died of the virus as of Jan. 19, far greater than the official tally of 8,505 on that day, cementing New York's toll as one of the highest in the nation.

Those numbers are consistent with a report released just hours earlier by state Attorney General Letitia James charging that the nursing home death count could be off by about 50%, largely because New York is one of the only states to count just those who died on facility grounds, not those who later died in the hospital.

"While we cannot bring back the individuals we lost to this crisis, this report seeks to offer transparency that the public deserves," James said in a statement.

The 76-page report from a fellow Democratic official undercut Cuomo's frequent argument that the criticism of his handling of the virus in nursing homes was part of a political "blame game," and it was a vindication for thousands of families who believed their loved ones were being omitted from counts to advance the governor's image as a pandemic hero.

"It's important to me that my mom was counted," said Vivian Zayas, whose 78-year-old mother died in April after contracting COVID-19 at a nursing home in West Islip, New York. "Families like mine knew these numbers were not correct."

EXHIBIT 1



Cuomo's office referred all questions to the state health department. Several hours after the report, State Department of Health Commissioner Howard Zucker released a lengthy statement attempting to refute James' report but which essentially confirmed its central finding.

Zucker's figure of 12,743 nursing home resident deaths included for the first time 3,829 confirmed COVID-19 fatalities of those residents who had been transported to hospitals.

Those figures could be even higher, but the health department said its audit was ongoing, didn't break out deaths presumed but not confirmed to be caused by the virus, and omitted those in assisted living or other types of long-term care facilities.

Zucker, however, still took issue with James' characterization of his department's official tally as an "undercount." He said "DOH was always clear that the data on its website pertains to in-facility fatalities."

James has for months been examining discrepancies between the number of deaths being reported by the state's Department of Health, and the number of deaths reported by the homes themselves.

Her investigators looked at a sample of 62 of the state's roughly 600 nursing homes. They reported 1,914 deaths of residents from COVID-19, while the state Department of Health logged only 1,229 deaths at those same facilities.

Thursday's release backed up the findings of an Associated Press [investigation](#) last year that concluded that the state could be understating deaths by as much as 65%.

State Sen. Gustavo Rivera, a Democrat who has blasted the Cuomo administration for its incomplete death count, said he was "sadly unsurprised" by the report.

"Families who lost loved ones deserve honest answers," Rivera said. "For their sake, I hope that this report will help us unveil the truth and put policies in place to prevent such tragedies in the future."

Cuomo, who last fall released a book touting his leadership in dealing with the virus, has not been shy about using New York's lower nursing home death count to make the argument that his state is doing better than others in caring for those in such facilities.

"There's also no doubt that we're in this hyper-political environment so everybody wants to point fingers," Cuomo told CBS "This Morning" in October. "New York, actually, we're number 46 out of 50 in terms of percentage of deaths in nursing homes ... it's not a predominantly New York problem."

The attorney general's report also took aim at New York's controversial March 25 policy that sought to create more space in hospitals by releasing recovering COVID-19 patients into nursing homes, which critics contended was a driving factor in causing nursing home outbreaks.

James' report said those admissions "may have contributed to increased risk of nursing home resident infection and subsequent fatalities," noting that at least 4,000 nursing home residents with COVID-19 died after that guidance. But James' report said the issue would require further study to conclusively prove such a link.

New York's health department released a much-criticized report last summer that claimed the March 25 policy, which was reversed in May, was "not a significant factor" in deaths.

James' review also found that a lack of infection controls at nursing homes put residents at increased risk of harm, that homes with lower federal scores for staffing had higher fatality rates, and that a broad measure Cuomo signed in April shielding nursing homes and other health care providers from lawsuits may have actually encouraged homes to hold back on hiring and training.

"As the pandemic and our investigations continue," she wrote, "it is imperative that we understand why the residents of nursing homes in New York unnecessarily suffered at such an alarming rate."



# Over 200,000 Residents and Staff in Long-Term Care Facilities Have Died From COVID-19

**Priya Chidambaram** (<https://www.kff.org/person/priya-chidambaram/>)

Published: Feb 03, 2022



**More than 200,000 long-term care facility (LTCF) residents and staff have died due to COVID since the start of the pandemic (Figure 1).** The CDC's [latest update](https://www.cdc.gov/nhsn/covid19/ltc-report-overview.html) (<https://www.cdc.gov/nhsn/covid19/ltc-report-overview.html>) reporting data on nursing home deaths as of January 30<sup>th</sup> pushes the reported number of deaths over this bleak milestone. This finding comes at a time when the national surge in cases due to the Omicron variant has started to subside, deaths are rising nationwide, and nursing homes have been working to increase vaccination and booster rates among residents and staff, particularly in light of the new federal rule requiring staff vaccination recently allowed to take effect by the Supreme Court. As of January 16<sup>th</sup>, approximately 82% of nursing home staff and 87% of nursing home residents are [fully vaccinated](https://data.cms.gov/covid-19/covid-19-nursing-home-data) (<https://data.cms.gov/covid-19/covid-19-nursing-home-data>).

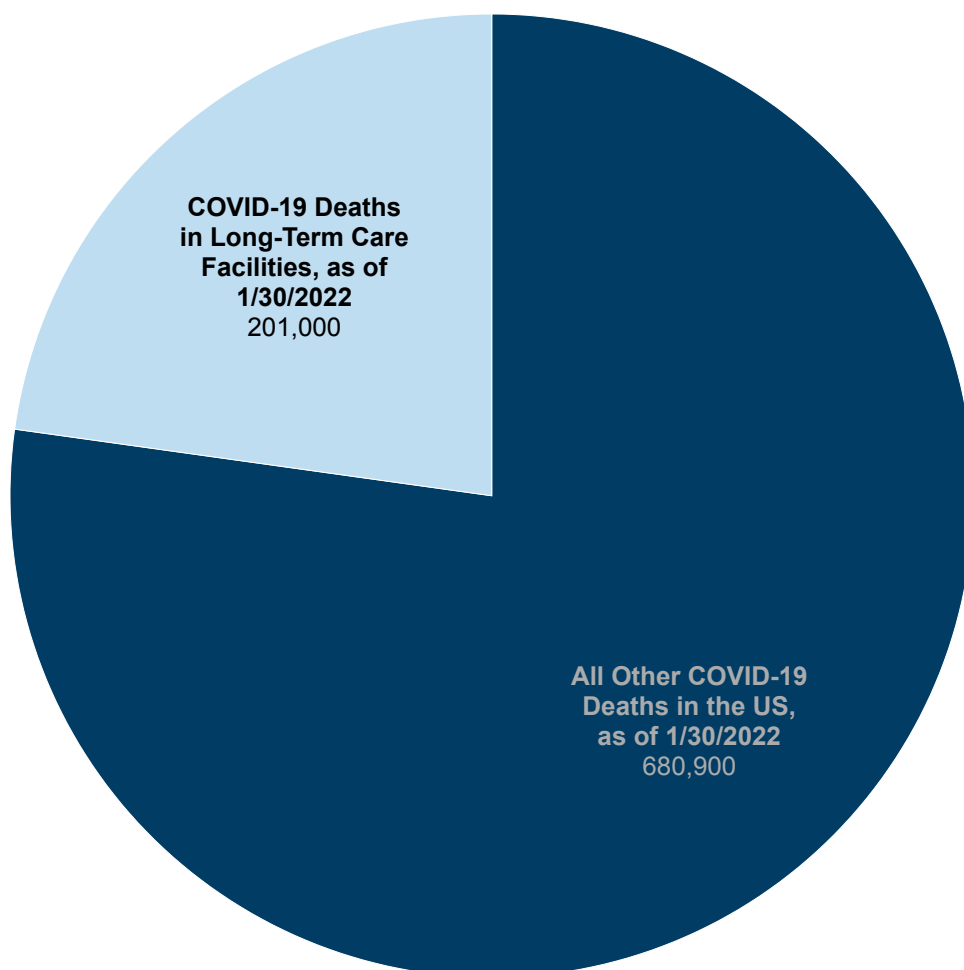
This death count is based on state and federal data sources. For the period between March 2020 and June 2021, the total number of deaths is based on state-reported data on LTCFs, including nursing homes, assisted living, and group homes, that summed to 187,000 resident and staff deaths. For the subsequent period between July 2021 and January 2022, we incorporated data reported to the federal government by nursing facilities (excluding other types of LTCFs), adding another 14,000 resident and staff deaths to the total. The total number of resident and staff deaths from these two sources, roughly 201,000, is likely an undercount of the true number of resident and staff deaths in LTCFs since it excludes deaths in long-term care settings other than nursing homes after June 30<sup>th</sup>, 2021. Additionally, not all states reported data on all types of LTCFs prior to June 2021.

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time for a number of reasons, including high rates of vaccination (<https://data.cms.gov/covid-19/covid-19-nursing-home-data>) among residents, rising vaccination rates among staff, an increased emphasis on infection control procedures (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html>), declining nursing home occupancy, and the lack of data on deaths in assisted living and LTCFs other than nursing homes in recent months. Despite this drop as a share of total deaths, nursing homes have continued to experience disproportionately high case and death rates (<https://www.kff.org/coronavirus-covid-19/issue-brief/key-questions-about-nursing-home-cases-deaths-and-vaccinations-as-omicron-spreads-in-the-united-states/>) in the country during the recent surge. Higher case rates may be attributed to the highly transmissible nature of Omicron and the nature of congregate care settings. Higher death rates may be attributed to the high-risk status of those who reside in nursing homes.



More than 201,000 COVID-19 Deaths, and at Least 20% of All COVID-19 Deaths in the U.S., As of 1/30/2022.



NOTE: LTCF death count is an undercount since this count excludes deaths in non-nursing home LTCF settings after June 30th, 2021 and also reflects some incomplete state reporting prior to that date. Some of the "All Other COVID-19 Deaths in the US" count likely reflect LTCF deaths that have not been categorized as such.

SOURCE: Long-term care death count is from KFF analysis of CMS COVID-19 Nursing Home Data, available state reports, press releases, and official state data through news reports. Total COVID-19 death count is from CDC. All data sources are as of January 30th, 2022. • [PNG](#)



**COVID-19 data that includes settings across the care continuum is essential to comprehensively assess the impact of COVID-19 on seniors and people with disabilities.** To date, the federal government only requires data on COVID-19 cases, deaths, testing, and vaccinations from Medicare and Medicaid-certified nursing facilities (<https://www.kff.org/medicaid/issue-brief/how-do-cmss-new-covid-19-vaccine-reporting-and-education-rules-apply-to-different-long-term-care-settings/>). However, there is ample research

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assisted living facilities and group homes. Nearly one million people (<https://www.kff.org/report-section/covid-19-issues-and-medicaid-policy-options-for-people-who-need-long-term-services-and-supports-appendix/>) live in assisted living facilities, a population roughly the size of the nursing home population, but one that lacks comparable data. The data gap for all settings across the care continuum makes it difficult to assess the full impact of the pandemic on seniors and people with disabilities residing outside of nursing homes. Additionally, the federal health care worker vaccine mandate does not apply to all settings across the care continuum, possibly leading to COVID-19 infections with resulting staff shortages in these settings.

**Data is not available on the demographics of those who died in long-term care settings, making it difficult to understand the impact of race/ethnicity, age, vaccination status, and other key characteristics on infection severity or likelihood of mortality in LTCFs.** While federally available data provides insight into the numbers of cases, deaths, and vaccinations as reported by nursing homes, gaps in data limit the ability to assess the impact more directly among residents and staff, by patient characteristics. Overall, cases and deaths in nursing homes appear to be declining. However, this analysis confirms the disproportionate toll of COVID-19 on people living and working in LTCFs and highlights the importance of comprehensive, timely, and accurate data.

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KFF Headquarters: 185 Berry St., Suite 2000, San Francisco, CA 94107 | Phone 650-854-9400

Washington Offices and Barbara Jordan Conference Center: 1330 G Street, NW, Washington, DC 20005 | Phone 202-347-5270

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